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SERIAL CHANGES OF EVEROLIMUS-ELUTING STENT INCOMPLETE STENT APPOSITION: AN OPTICAL COHERENCE TOMOGRAPHY SUBANALYSIS FROM THE RESET TRIAL

Poster Contributions
Poster Sessions, Expo North
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Background: The long term outcome of in complete stent apposition (ISA) after stent implantation remains unclear. The aim of this study was to evaluate serial changes of ISA after everolims-eluting stent implantation by using optical coherence tomography (OCT).

Methods: Randomized Evaluation of Sirolims-eluting versus Everolims-eluting stent Trial (RESET) was a prospective dual-arm randomized trial of everolims-eluting stents (EES) and sirolims-eluting stents (SES) in 3197 patients with coronary artery disease. From the RESET trial, 44 patients with everolims-eluting stents who underwent serial OCT examination (post-stenting and 12-month follow-up) were investigated.

Results: At post-stenting, ISA was observed in 38 (86%) EES. Mean malapposed distance (distance from stent strut to lumen surface) was 366 ± 225 μm at post-stenting. At 12-month follow-up, 27 (76%) ISA was resolved, however 9 (24%) was persistent. The mean malapposed distance was 165 ± 276 μm at 12-month follow-up. Receiver-operating curve analysis identified a malapposed distance > 410μm, (area under the curve, 0.95) as separating persistent from resolved ISA.

Conclusions: The stent with malapposed distance > 410μm at post-stenting has a high risk for persistent stent malapposition at 12-month follow-up in EES. OCT can predict persistent stent malapposition and provide useful information to optimize percutaneous coronary intervention.